## ST. JOSEPH'S FAIR AND RACES,

SEPTEMBER 10th to 15th,

Six Days of Rare Entertainment.

# The Display.

HE display in the Agricultural and Mechanical department will be first class and the list of general attractions is the best ever secured for the St. Joseph Fair. The 4th Regiment N. G. M., will be encamped at the fair ground Fair Week, and a grand military review, competitive drills and a sham battle at night, are among the attractions.





For Thirteen Purses and as usual the St. Joseph Fair will have by far the Best Races to be Seen in the West.

Trotting and pacing races will be disposed of by Friday night, and Saturday is set aside ac a gala day for running and bicycle races.

LIBERAL PURSES OFFERED.

## D. D. BURNES' HUZZARS.

The Finest Mounted Division of the K. P., Society will Give a Grand Parade and Exhibition Drill.

A Grand Carnival from Monday Noon until Saturday

REDUCED RATES ON ALL RAILROADS.

M. F. MYERS, Secretary. ST JOSEPH, MISSOURI.

MILTON TOOTLE, Jr., President.



The Pneumatic Dynamite Gun and Its Vast Possibilities.

REVIEW OF THE SANDY HOOK TESTS

Likely to Become an Essential Part of Our Coast Defenses-Method of Applying the Compressed Air-Composition of the Projectiles.

The great guns that threw into the air an acre of the Atlantic ocean last week, says the New York Sun, are perhaps helping another cause than that of war, and floing their involuntary share in moving the world along toward that state of friendly quiet in which the Peace congresses believe we should dwell. The knowledge of the power for dreadful destructiveness that each new improvement gives causes even kings to hesitate while the name of war grows more hateful to the people. Improvements in explosives and in small and big arms have done this much for the peace of the world, and now a quarter of a ton of dynamite thrown a mile and a half out to sea, and placed with an accuracy that has varied only slightly throughout the tests, has come to aid in the work of abolishing war.

There comes out of these tests the con-

clusion for New Yorkers that a hostile ship in not likely to enter the harbor. If the guns at Sandy Hook were not equal to keeping out a foreign vessel then a battery of the guns stationed on Coney Island and Rockaway could add strength that should prove invincible. The owners and promoters of the new guns maintain that one of the projectiles is capable of destroying three men-of-war. Seven years ago an experiment in the lower bay gave a measured indication of the destructiveness of one of these projectiles when it was discharged at a An old wooden schooner which had been used in the coast survey was anchored about 1.864 yards from Fort Lafayette. An eight-inch pneumatic gun was mounted and loaded with a projectile containing fifty-five pounds of nitro-gelatine, which is somewhat more than one-tenth of the strength of the projectiles used in the tests las week. The gun, moreover, had not been brought to its present state of completion, although these experiments at-

The schooner was ninety feet long and anchored bows on. The first shot is the gun at Fort Lafayette fell short, the second exploded about ten yards the vessel, broke off the mainmast and blew up a part of the deck. The third projectile exploded under the schoner and lifted her out of the water. She seemed p rise slowly into the air and then broke is we parts directly amidships. Two more projectiles completed her demolition and left y a mass of floating wreckage. This the result of the experiments made when gun was incomplete and the explosive the projectile only a small proportion of the amount used now. But it indicated something of what might be expected when are of these projectiles and a vessel should ne into close quarters.

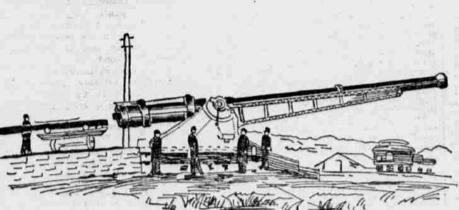
AS COAST DEFENDERS.

The news comes from Washington that more especially, the great accuracy with which projectiles have been placed, have attracted the admiration of the ordnance experts in both services. They believe the success of the gun will lead to its adoption for poses of coast defense, and for the staction of those coastwise cities for which is portification Board has recommended a nerst policy of defense against attacks in foreign fleets. The army ordnance offices believe that these tests have proved youd doubt that the dynamite gun will be protection of those coastwise cities for which the Furtification Board has recommended a general policy of defense against attacks from foreign fleets. The army ordnance offi-cers believe that these tests have proved

ton a prejudice against the gun by naval experts, and the failure of the gun on the dynamite cruiser Vesuvius to work satisfac-torily in the exhaustive tests which have given since the cruiser has been com pleted, has increased the lack of confider The army has always contended that one of these guns, scientifically manipulated, was capable of greater destructive power than three of the heaviest pieces of ordnanec manufactured for coast defense. General Flagler, chief of ordnance of the army, has maintained that while there was great development yet to be secured in perfecting the dynamite gun, sufficient progress had already been made to guarantee its adoption other ordnance in the protection of great cities. Captain Sampson, chief of the ord-nance bureau of the navy, has always been in some doubt as to the expediency of adoptlieves that the disadvantages which have been encountered, mounting one of the gun on a war ship, can be readily removed with a stationary platform on shore, and that all use can easily be reduced to a minimum. The recent results obtained at Sandy Hook are regarded by ordnance officers here as in

has stated that the accuracy leaves much to be desired. It is manifes that the accuracy of a gun is its most im-portant quality, and without a satisfactor degree of accuracy all other advantages are of miner importance. The difficulty in the pneumatic guns appears to center in the main valve which admits the air to the gun At all ranges except the maximum the suc cessful working of the gun demands that this valve should open and close in an ex-ceedingly short time, probably a small fraction of a second. The difficulties countered in accomplishing this have The difficulties en been overcome. The department has alread expended \$30,000 upon experiments with these guns without any decided improvement Without entering further at this time into the merits of the system the bureau recommends that further experiments be deferred until after the stallation at Sandy Hook of the fifteenguns now in course of construction for the War department. In these guns the com-pany promise to overcome the difficulties which exist in those of the Vesuvius."

EFFECTIVENESS OF DYNAMITE. Next to the interest that attaches to the stablishment of the effectiveness of dyna



SIDE VIEW OF . THE BIG PNEUMATIC GUN.

dicating that the use of dynamite in modern warfare has become practically indispensable to the proper protection of harbors, and they ow admit that whatever doubt was formerly held as to the impossibility of securing range and accuracy has been removed by the apparent facility with which the projectiles were discharged by the fifteen-inch gun last week The present congress authorized the tary of the navy to convert the dynamite cruiser Vesuvius into a torpedo cruiser in the discretion of the department. The Sand Hook test, however, will probably lead t the postponement of any such action unt the guns on the vessel have been tried again

EARLY EXPERIMENTS. The navy was the first to take up the question of using dynamite expelled tubes by compressed air for the destruction of a ship. Early in 1886 the department ordered the construction of a vessel which was to be fitted with three dynamite tubes mounted forward stationary and aimed by the ship's rudder. The vessel was to have great speed, and it was believed she would "revolutionize warfare." A favorable re-port on the system had been made by the engumatic gun board, and the vessel was busit by the Cramps at a cost of nearly \$400,000. The first trial with the guns occurred in 1889. Three shots were fired occurred in 1889. Three shots were fired for range and fifteen for endurance. The report of the board says that no attempt was made to secure accuracy of practice, the trial being simply to meet the contract requirements as to the rapidity of fire and the capacity of the system to maintain that rapidity for a given time. After considerable to the system to maintain that rapidity for a given time. rapidity for a given time. After consider-ing the report the department ordered a second trial, the prejectile to be used be-ing a fub-caliber containing a 204-pound charge of gun cetton and fitted with memite as an ammunition, probably as teresting a lesson of the recent tests is to be drawn from the use of compressed at in the guns. The officers say that for many reasons it would be impossible to use der. Perhaps the most important is it would detonate so sensitive an explosive as dynamite. The 36,000 pounds pressure to the superficial inch, which is about the average force of powder, would cause the projectile to explode before it left the gun Another necessity which renders the use of powder impossible is the importance of keeping the gun cool. Pewder would hea it to such an extent that the dynamite would explode. As it is, the pneumatic gun is made cooler by every introduction of com-pressed air. If powder were used the shell of the projectile would have to be very much heavier that it is now, and there would be less space for the explosive. The largest projectile now weighs 1,120 pounds, and about 45 per cent of this weight is in the explosive, which in these large projectiles weighs 500 pounds.

The projectile must, moreover, be expelled at a uniform rate. The first shock of the explosion of powder, diminishing until its orce ceases, would cause the projectile explode, while an explosion is prevented by the unvarying pressure of compressed air, which maintains the same rate—about 1,000 to the inch—throughout the gun. Another reason given by the company for the use of compressed air is that the force of powder is likely to be variable. It is not always uniform, and for that reason greater accuracy is obtained by the use of compressed air, which they say they can be certain will always produce an exact result. In addition to these advantages, as the company regards them, there is, of course, no dirt or smoke or necessity for scrubbing out the gun after it has been used. explode, while an explosion is prevented the gun after it has been used. The idea of using compressed air as

and long bodies. substitute for powder is said to have origi-nated with a Toledo mechanic named Mef-fort, who had made a study of explosives. The pneumatic gun of today is said to have developed from an idea suggested to Meffort

his fuses were not adequate. Since that time Meffort's idea has been improved upon from time to time until the present gun was devised, and members of the company say that the latest tests have suggested ossible improvements in the details of the

The gun and carriage weigh in the aggregate fifty-two tons, but the gun can be moved by the turn of a wheel or turned in any direction. A telescope stands by the gun, and through this the gunner places his aim. The gun is moved by electricity. The compressed air is conveyed from the engine ooms by means of pipes to wrought from and steel reservoirs, which are in chambers under the gun platform. From these reser-voirs the air is conducted by means of large olps up through the carriage to the trunarge casing surrounding the barrel to the ips at the pintle and at the trunnlons which allow the gun to be moved with free-iom without breaking the continuality of the pipes and fillowing any escape of air. A large valve near the breech controls the ad-mission of air loto the barrel. The opening and closing of this valve is automatic and completely under the control of the gunner.

THE PNEUMATIC SYSTEM. A feature of the pneumatic system is the ability of the gunner to change the range without changing the elevation of the gun by controlling the amount of compressed air that escapes at each discharge. When the discharging lever is pulled the large valve at the breach opens and remains opin a sufficient time to allow a certain quantity of air to escape into the barrel; then the valve closes, before the projectile leaves the muzzle, cutting off the escape of the air and retaining in the reservoir all that was not needed in propelling the projectile. The length of time the valve remains open is under control of the gunner, and by regulat-ing the amount of air that enters the barrel he regulates the energy imparted to the pro-jectile, and so can change his range without

changing the elevation of the gun.

The system of keeping the reservoir always stocked with compressed air is a simple one. At each discharge of the gun the air pressure in the reservoir falls according to the adjustment of the valve. If the stand-ard pressure in the reservoir is 1,000 pounds to the square inch, one shot may reduce this pressure to 900 or 850 pounds, or any pressure, not usually less than 800 pounds. By drawing from a storage reservoir beside the engine rooms, which contains air at a pressure of more than 1,000 pounds to the square inch, the pressure in the gun reservoir may be speedily restored. This is, in brief, the compressed air system which the

ompany uses.

The system of loading the gun has been arranged so that there is no danger from the rapid handling of the projectiles. The projectiles are brought from the magazines in trays, which are run onto a loading car-riage. This carriage runs on a circular track around the gun and brings the projectile into position for loading. A wind-lass is used for forcing the projectile into the bore of the gun. It requires four mer to load the gun with a sub-caliber projectile while the full caliber projectiles, which which weigh as much as 1,120 pounds, re-quire six men. The company's managers say they have never had an accident Captain Rapleff, the designer of the gur tested last week, says that the projectiles can be easily thrown upon the deck of a

THE FULL CALIBRE PROJECTILE.

There are two kinds of projectile used in the gun-one, termed a full caliber fits the bore closely; the other, a sub-cali ber, is considerably smaller than the bor and is made to fit enagly at the ends by system of circular blocks, which are loose and which fall into the water a few hun-dred yards from the gun after the discharge, of the projectiles have ogival heads long bodies. The gun being a smooth bore, rotation is given to the torpedoes as they move through the air by means of spiral vanes, something on the plan of a ship's propeller, which are attached to the rear. The full caliber projectile is eleven to distribute equally the strain caused by the setting back of the charge at the instant of the discharge, thus causing less shock to the explosive. The fuse which causes the explosion is situated in the point of the projectile, where it is inserted just before the The range of this projectile

2,600 yards. THE PROJECTILES.

Two sizes of sub-caliber projectiles are used: One ten inches in diameter, which carries a charge of 200 pounds of high explosive and has a range of more than 4,000 yards, and the other eight inches in diameters. ter, carrying 100 pounds of dynamite and having a range of 5,200 yards. The fuse used in this projectile is somewhat more than twelve inches long and three and one-half inches in diameter, and weighs twenty pounds. To the end of it is attached brass case containing a priming charge of two and che-half pounds of dry gun cot ton. About thirty-seven grains of fulminat of mercury are used to explode the gun cot ton. All of the more important parts of the fuses are in duplicate, in order to secure cer-tainty of action. The hammers are locked until the projectiles are well out of the muzzle of the gun, when they are automatically

The fuses may be set to explode the in stant the projectile strikes the water, or two or three seconds later. The projectile files through the air always in view until it striker the water. Tons of water burst into the air and then settle down into great stretches of white foam. The force of the shots is felt at Sandy Hook, and one on Friday was distinctly noticeable on Atlantic Highlands, four miles from the spot where the projectile exploded.

board of ordnance officers will repor on the results of the test, and until that time it is not likely that army or navy officers will give their opinions. It is pre-sumed that it will be accepted by the government, as the conditions have been more than complied with. On Friday, for in stance, the five shells fired fell in a straight fine within a space of thirty-nine and one-half yards long at a distance of 2,000 yards from the gun. The government would have been satisfied if 74 per cent of the shells had fallen in a space three times as long. The accuracy of the projectiles seem to be stablished, as well as the certainty of

explosion at a given time.

The entire plant, as it will be turned over to the government by the Pneumatic Torpedo and Construction company, includes the three guns with their carriages and all of the electrical appliances, the engines and machinery which compresses and stores the air that forms the motive power, the dynamite magazine and all of the storage voirs, outhouses, projectile carriages and gur attachments. The total cost to the govattachments. ernment for the plant will be \$162,00 it will represent almost the first large amount of money the company has received since they began to perfect the gun some

twelve years ago. End of a Feud.

For repeating to General Butler, then in command of the Army of the James, a disparaging remark made by a subordinate concerning the general's military efficiency, an officer in a Pennsylvania regiment, says the Philadelphia Record, was promised a sound thrashing by the officer whom he had reported, and who, in consequence, had suffered a bad quarter of an hour in the general's society war was over, at their very first meeting, no matter under what circumstances it might occur. The two officers became prominent civilians in adjoining states. For many years one of them went around armed with a revolver, the other with a blank ball bond. Though often in this city (where one of them resided) at the same time, they never mel until recently, and then they encountered each other face to face in the surf at Atlantic City. Each had grown so stout as to weigh over 250 pounds, yet they instantly recognized each other. Something ludicrous in the thought of such vast spheres of flesh engaged in a rough-and-tumble fight may have entered their minds at the same mo-ment, for they called each other by name, smiled and shock hands. The feud was thus

the waves from the sea curled rest-Over the whitened shore.

'You're cruel and heartless and all things You're a mean old horrid thing! for you said you'd stay till I went away There! I'll give you back your ring." "I'm going back to town." "Enough!"
She spake with a look of scorn.
"I'll make you suffer you poor old duffer,
And sorry that you were born.

"You are going back to town, then go, There are other men as sweet!" And she quickly rose from her former pose And moved away ten feet.

"I'm going back to town," he said;
"Nay, dearest, hear me speak,
And don't be rash—to get the cash
To carry me through next week."

PUNCH WITH CARE.

Various Reasons Why the Conductor Should

Obey This Injunction. The ticket punching system is the masonry of railroading. It almost ranks as an occult science. The ticket auditing department is the custodian of these mysterious symbols-the punch marks, which are as important in the disposition of tickets as are signnatures in the acceptance of bank checks. In any case of dispute between passenger and conductor, or conductor and company, the punch marks are final and incontrovertible evidence, except where an original punch mark has been punched out by a larger punch in criminal hands, which seldom happens.

Every passenger conductor in America says the St. Paul Pioneer Press, has a punch of his own, though not of his own so lection, and when he applies it to a passer ger's ticket he has committed himself to i as freevocably as though he affixed his sig-nature on the back of the contract. Every conductor must punch every ticket on his train, or hold himself liable for personal payment of the fare for his division or part thereof over which the unpunched portly reads. In nothing are railroad companies more strict than in the use of ticket punches the conductor's insignia of office ompany's material guarantee of square deal-

ing by all interested. The punch mark is the passenger's protec-ion. By it or its absence any mistake or oversight on the conductor's part involving subsequent confusion or loss to the ger can easily be traced, proved and rectified For illustration, a passenger recently pur-chased a round-trip ticket from Portland to San Francisco. On the going trip a con-ductor, by mistake, tore off the section reading "to San Francisco." The next conductor, having no evidence of the passenger's right to travel over his division, demanded cash fare, which was paid and receipted. On arriving at San Francisco the passenger called upon the general passenger agent, and, shownig his return portion of the ticket and re-celpt for part cash payment on going trip, asked that his loss be made good. eral passenger agent hesitated a moment.
"Look bere," said the passenger, "I know something about railroad tickets myself, even if I'm not a deadhead. You look up the going portion of my ticket, and if you don't find punch mark 'V' on it I'll give you \$50 cash and go home."

The ticket was looked up and the identical punch mark discovered, whereupon the pas-

senger department refunded the cash payment made on the train. The first mark punched in the ticket is the letter "L," meaning originally "limit," by the city ticket agent or local agent who issues it. This letter is used by all agents who sell tickets in this country, and designates the class and limit of the ticket. The star punch is used about as freely as the "L," and has about the same should It is generally applied to ironclad, or non-stop-over, one-way tickets, and also de-scriptive tickets. It is even used on coupon tickets, known to auditors as "excursion" tickets, which read over
some foreign line, and book tickets,
which read to a far point on home
line, to designate class and limit. Like the
"L," it is used on the body of contracts. In

the auditor's office it is used for cancellation.

Ordinary card tickets, which are used transportation one way between local stations where there is not sufficient travel to justify the company in paying the printing, are never punched by the selling agent. Besides the "L" and star, all ticket offices have the mark "12," which is applied to tickets sold to children entitled to ride at half fare. If baggage is checked from the house or hotel, the letters "B. C." are punched out on the ticket, meaning "baggage checked." The transfer company and also the baggageman at the depot have this punch, the use of which prevents a passenger from getting 150 pounds of baggage checked at his home and another 150 pounds at the depot. Then in large cities the gatemen have a punch, "G," which means "holder has passed through the gate," and nothing more. Ticket agents, baggagemen and gatemen use always the punches belonging to their respective classes. Conductors have indirespective classes. Conductors have indi-vidual punches, as already explained, no two of which make the same mark. Ten thou-sand would be a moderate estimate of all the conductors' punch marks in this country. The system of punching tickets held by passengers is simple enough. If a ticket reads to a point on his division the conductor punches it and places it in his pecket. If it reads beyond he punches it to the end of his division, and if a separate section represents his division he tears it off and places it in his pocket. Each succeeding conductor follows the same rule. ceeding conductor follows the same rule.

If the passenger asks for stop-over at any intermediate point his ticket is punched to the end of the run just the same, and a stop-over check is issued. The return portion of

over check is issued. The return portion of a round-trip ticket is never touched by conductors on going passage. If a ticket reads over two or more roads the conductors of each are responsible only for their own partions, and must under no circumstances meddle with any foreign portion. In this way all with any foreign portion. In this way all confusion is avoided by the respective ticket auditing departments in making the monthly settlement of proportions with each other. In the case of ordinary tickets it is immaterial whether conductors punch high or low, to the right or left, but involuntarily they select certain ret portions. Of course, there select certain pet portions. Of course, there are portions of every ticket where no conductor is supposed to apply his instrument. Every conductor knows a few other conductors' punches, but the ticket auditing department knows them all. Before the gen-eral passenger agent gives out a punch to a conductor the ticket auditor writes the name of the recipient in a large book, and opposite it his mark is punched out, and for every ticket with that mark which is subsequently received that conductor is personally responsible. His mark means that within a given time on a certain train, running over a certain division, he accepted from a passenger, named or unnamed, the material evidence of his right to travel, and endorsed the company's specification of privileges to said pas-

The punch mark means all this and more, It means that the conductor holds himself personally responsible for any oversight, indiscretion, or irregularity in his handling of the ticket. If he loses his punch he must report immediately to headquarters, where-upon his general passenger agent will fur-nish him with a new one, necessarily not of the same denomination. The old punch mark is built-tined as lost. Great care in mark is butterined as lost. Great care in exercised in this regard because of the opportunity afforded a scalper securing the old punch and manipulating tickets. A favorite trick of some scalpers used to be to punch out a small mark by inserting about it a larger mark, thereby changing the de-

nomination of the ticket.

Such marks as "K" or "F" or other letters, excepting "G," "L" and "B. C.," have no significance whatever, any more than has an angle or bar. Some people suppose they represent conductors' names. Every mark has untold significance to the ticket auditor,

but none to any one else.

Having exclusive jurisdiction over conductors, the division superintendents can change them around to different trains without notifying the ticket auditing departemnt, which cares little, in fact, same conductors always carry the same

Rev. E. P. Blodgett of Gre nwich, Mans. the oldest paster in point of service, with one exception, in the United States, closed his official councilor with his congregation with a parting sermon has Sunday after-noon after a service of fifty-one years.